

Application No.: 10/714,336

Docket No.: JCLA11475

In The Claims:

Claims 1-23. (cancelled)

Claim 24. (new) A package substrate adapted to carry a die of a wire bonding type, the package substrate at least comprising:

a substrate having a surface, a power pad, a ground pad and a signal pad, wherein the surface of the substrate having a die bonding area, the power pad, the ground pad and the signal pad disposed outside the die bonding area;

at least one passive component disposed between the power pad and the ground pad, the passive component having a power electrodes connected to the power pad and a ground electrode connected to the ground pad;

a first continuous gold layer on the exposed surface of the power electrode and the exposed surface of the power pad;

a second continuous gold layer on the exposed surface of the ground electrode and the exposed surface of the ground pad; and

a third gold layer on the exposed surface of the signal pad.

Claim 25. (new) The package substrate of claim 24, further comprising a patterned solder mask layer disposed on the surface of the substrate, wherein the patterned solder mask layer exposes the surfaces of the power pad, the ground pad and the signal pad.

Claim 26. (new) The package substrate of claim 24, further comprising a patterned solder mask layer disposed on the surface of the substrate, wherein the patterned solder mask layer has at least one opening.

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Claim 27. (new) The package substrate of claim 24, wherein the passive component is an inductor.

Claim 28. (new) The package substrate of claim 24, wherein the passive component is a capacitor.

Claim 29. (new) The package substrate of claim 24, wherein at least one electrode is made of Sn-Pb alloy.

Claim 30. (new) The package substrate of claim 24, wherein the power pad is between the ground pad and the signal pad.

Claim 31. (new) A package substrate adapted to carry a die of a wire bonding type, the package substrate at least comprising:

- a substrate having a surface, a power pad, a ground pad and a signal pad, wherein the surface of the substrate having a die bonding area, the power pad, the ground pad and the signal pad disposed outside the die bonding area;

- at least one passive component disposed between the power pad and the ground pad, the passive component having a power electrodes connected to the power pad and a ground electrode connected to the ground pad;

- a first continuous nickel layer on the exposed surface of the power electrode and the exposed surface of the power pad;

- a second continuous nickel layer on the exposed surface of the ground electrode and the exposed surface of the ground pad; and

- a third nickel layer on the exposed surface of the signal pad.

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Claim 32. (new) The package substrate of claim 31, further comprising a patterned solder mask layer disposed on the surface of the substrate, wherein the patterned solder mask layer exposes the surfaces of the power pad, the ground pad and the signal pad.

Claim 33. (new) The package substrate of claim 31, further comprising a patterned solder mask layer disposed on the surface of the substrate, wherein the patterned solder mask layer has at least one opening.

Claim 34. (new) The package substrate of claim 31, wherein the passive component is an inductor.

Claim 35. (new) The package substrate of claim 31, wherein the passive component is a capacitor.

Claim 36. (new) The package substrate of claim 31, wherein at least one electrode is made of Sn-Pb alloy.

Claim 37. (new) The package substrate of claim 31, wherein the power pad is between the ground pad and the signal pad.

Claim 38. (new) A package substrate adapted to carry a die of a wire bonding type, the package substrate at least comprising:

a substrate having a surface, a power pad, a ground pad and a signal pad, wherein the surface of the substrate having a die bonding area, the power pad, the ground pad and the signal pad disposed outside the die bonding area;

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at least one passive component disposed between the power pad and the ground pad, the passive component having a power electrodes connected to the power pad and a ground electrode connected to the ground pad;

a first continuous gold-nickel-alloy layer on the exposed surface of the power electrode and the exposed surface of the power pad;

a second continuous gold-nickel-alloy layer on the exposed surface of the ground electrode and the exposed surface of the ground pad; and

a third gold-nickel-alloy layer on the exposed surface of the signal pad.

Claim 39. (New) The package substrate of claim 38, further comprising a patterned solder mask layer disposed on the surface of the substrate, wherein the patterned solder mask layer exposes the surfaces of the power pad, the ground pad and the signal pad.

Claim 40. (new) The package substrate of claim 38, wherein the passive component is an inductor.

Claim 41. (new) The package substrate of claim 38, wherein the passive component is a capacitor.

Claim 42. (new) The package substrate of claim 38, wherein at least one electrode is made of Sn-Pb alloy.

Claim 43. (new) The package substrate of claim 38, wherein the power pad is between the ground pad and the signal pad.